

REMARKS

STATUS OF THE CLAIMS

Claims 1, 3-11, 13-25, 27-35, and 37-46 are pending. By this Amendment, claims 1, 4, 11, 18, 25, 28, 35, 38 and 45 have been amended and claims 2, 12, 26 and 36 have been cancelled. No new matter has been added.

Applicant respectfully submits that the amendments presented herein are identical to those presented in the Amendment After Final Rejection, which was not entered by the Examiner. No new matter has been added.

REJECTIONS UNDER 35 U.S.C. § 103

A. The Examiner has rejected claims 1-46 under 35 U.S.C. § 103(a) over U.S. Patent No. 5,942,470 to Norman et al. ("Norman")

The Examiner relied on Norman for "teaching gear oil and gear oil additive concentrates which comprise (i) at least one oil-soluble sulfur-containing extreme pressure or antiwear agent, (ii) at least one oil-soluble amine salt of a partial ester of an acid of phosphorous, and (iii) at least one oil-soluble succinimide ashless dispersant, wherein the proportions of (i):(ii):(iii) on a weight basis is (1-5):(0.1-3):(0.05-4)." See Office Action dated July 27, 2005 at page 2, and col. 19, lines 1-10 of Norman. The Examiner has admitted that "Norman does not specifically limit the amount of sulfur in the final gear lubricant composition." See Final Office Action dated February 15, 2006 at page 3. In particular, the Examiner argued that sulfurized isobutene has a sulfur content of about 10 to about 50%. *Id.* at page 4, and col. 3, lines 21-25 of Norman.

The Examiner concluded that “if 1 wt.% of sulfurized isobutene is added as component (i), the amount of sulfur added to the composition ranges from between (1wt.%)x(10%) or 0.1 wt.% and (1 wt.%)x(50%) or 0.5 wt.%.” *Id.* Further, the Examiner concluded that because the “only other sulfur-containing component required to be added is the alkylamine salt of dialkylmonothiophosphate”, the amount of sulfur added by virtue of the monothiophosphate “likely is within the claimed limitation.” *Id.*

Alternatively, the Examiner argued that “it would have been obvious to the skilled oil formulator to have omitted the sulfur-containing extreme pressure agent, component (i), from the oil composition of Norman if its function was not desired.” *Id.*

Applicant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness because the cited reference does not teach or suggest all of the claim elements. Applicant respectfully traverses the rejection for the reasons already of record as well as those presented below.

1. Norman does not teach or suggest the claimed sulfur content

Independent claims 1, 11, 25, and 35 are all directed to an oil soluble lubricant *additive* package having a sulfur content less than about 0.3 wt.%. One of ordinary skill in the art would appreciate that the components of an additive package are generally present in higher weight percentages than those same components in a fully finished lubricating oil composition. In particular, one of ordinary skill in the art would understand that the fully finished lubricating oil composition comprises other ingredients, such as a major amount of a base oil, which would alter, for example, lower the weight percentages of the additive package components.

The Examiner relied on the "proportions of (i):(ii):(iii) on a weight basis is (1-5):(0.1-3):(0.05-4)" from Norman in formulating her rejection. See Office Action dated July 27, 2005 at page 2, and col. 19, lines 1-10 of Norman. However, these proportions are based upon the fully finished gear oil and not upon the additive package. For at least this reason, the Examiner's calculation and resulting conclusion that Norman teaches a composition that "likely is within the claimed limitation" is incorrect.

At col. 19, lines 15-25, Norman discloses that the additive concentrates comprise component (i) in an amount of 20-80 wt.%. So recalculating the amount of sulfur present in the additive concentrate using the Examiner's prior conclusions is as follows:

If 20 wt.% of sulfurized isobutene is added as component (i), the amount of sulfur added to the composition ranges from between $(20 \text{ wt.}\%) \times (10\%)$ or 2 wt.% and $(20 \text{ wt.}\%) \times (50\%)$ or 10 wt.%.

Norman does not teach or suggest an oil soluble lubricant *additive* package having a sulfur content less than about 0.3 wt.%, as recited in independent claims 1, 11, 25, and 35. Moreover, the amount of sulfur added by virtue of the monothiophosphate of Norman would only further increase the amount of sulfur in the additive package and thus further teaches away from the claimed invention.

2. Omitting component (i) of Norman is improper

As mentioned above, the Examiner relied upon *Ex parte Wu* to support her argument that the sulfur-containing extreme pressure agent, component (i), could be omitted from Norman. Component (i) is disclosed as an element of Norman's composition. To omit component (i) from Norman would destroy the invention for its intended purpose, and thus it would not have been obvious to do so. See MPEP

2143.01 V; *Ex parte Kaiser*, 189 U.S.P.Q. 816 (Bd. Pat. App. & Inter. 1974) (omission of feature claimed in reference is not obvious if such omission clearly contravenes the objective taught by the reference); *In re Gordon*, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

The antiwear agent of component (i) is recited in each of Norman's independent claims, and the reference never teaches or suggests that this component can be omitted. Thus, it would be improper to modify Norman to omit component (i), absent any suggestion or motivation provided in the reference to do so. *ACS Hospital Systems, Inc. v. Monefiori Hospital*, 732 F.2d 1572, 221 U.S.P.Q. 929,933 (Fed. Cir. 1984) ("If modifications to a prior art reference are required to arrive at a prima facie case, the prior art must supply the motivation or incentive to make the modifications."); *In re Mills*, 916 F.2d 680, 682, 16 U.S.P.Q.2d 1430,1432 (Fed. Cir. 1990).

3. Norman does not teach or suggest the claimed phosphorus content

The Examiner has stated that "component (ii) of Norman meets the limitation in the claims of the alkylamine salt of a dialkylmonothiophosphate component." See Office Action dated July 27, 2005, at 2. The Examiner further stated that "the specification on p. 19 adds 0.675 wt.% phos. component and Norman adds 0.1-3 wt.% of the same component. Thus, the phosphorus content of the Norman ref. must be within the claimed range of less than 0.11 wt.%." See Advisory Action dated May 9, 2006. Applicant respectfully disagrees with the Examiner's characterization of the reference.

As an initial matter, the 0.675 wt.% amount of the alkylamine salt of a dialkylmonothiophosphate disclosed in the present specification is the weight percent amount of the compound in a fully finished lubricant formula and is not the phosphorus content, let alone, the phosphorus content of an oil soluble lubricant *additive* package.

Moreover, as discussed above, the Examiner relied on the "proportions of (i):(ii):(iii) on a weight basis is (1-5):(0.1-3):(0.05-4)" from Norman in formulating her rejection. See Office Action dated July 27, 2005 at page 2, and col. 19, lines 1-10 of Norman. However, these proportions are based upon the fully finished gear oil and not upon the additive package. Norman discloses that component (ii) is present in an additive package in an amount of 1-15 wt.%. See Norman, col. 19, lines 15-25. Applicant notes that the disclosed 1-15 wt.% amount of component (ii) is not the phosphorus content of the lubricant additive. However, because the Examiner appears to be making that link based upon her comments in the Advisory Action, Applicant notes that this amount is different than the claimed amount and in no way teaches or suggests an oil soluble lubricant additive package having a phosphorus content of less than about 0.11 wt.%, as presently claimed.

4. Norman does not teach or suggest the claimed sulfur and the claimed phosphorus content

During the October 25, 2005, personal interview, the Examiner "recommended amending all of the independent claims to include limitations on sulfur and phosphorus content." See Examiner Interview Summary Record. Solely in an effort to advance prosecution, Applicant complied with the Examiner's recommendation.

For at least the reasons discussed above, Norman does not teach or suggest an additive package having a sulfur content of less than about 0.3 wt% and a phosphorus content of less than about 0.11 wt%, as presently recited in independent claims 1, 11, 25 and 35.

Independent claim 45 recites that the lubricating oil has at least two of the following properties: "a sulfur content less than about 0.3 wt%, a phosphorus content of less than about 0.11 wt%, and an ash content less than about 1.2 wt%." Because Norman does not teach or suggest either the claimed phosphorus content or the claimed sulfur content, Norman thus does not teach or suggest any combination of the components recited in the claim. As such, independent claim 45 is also allowable over Norman.

For each of the reasons discussed above, the pending claims are not rendered obvious by Norman. Accordingly, withdrawal of this rejection is respectfully requested.

B. The Examiner has rejected claims 25-46 under 35 U.S.C. § 103(a) over U.S. Patent No. 5,342,531 to Walters et al. ("Walters")

Applicant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness because the cited reference does not teach or suggest all of the claim elements. Applicant respectfully traverses the rejection for the reasons already of record as well as those presented below.

1. Walters does not teach or suggest the claimed sulfur content

The Examiner argued that the sulfur-containing extreme pressure or antiwear agent, component (a), is dissolved in a lubricating oil in an amount "usually between 0.01 and 2.0 % by weight, and preferably from 0.02 to 0.4% by weight, based on the total weight of the solution." See Office Action dated February 15, 2006, at 6, and Walters col. 2, lines 17-20. In particular, Walters teaches an additive concentrate comprising "a) 5 to 70% of at least one sulphur-containing antiwear or extreme pressure agent." *Id.* at col. 8, line 62 to col. 9. However, as discussed above with regard to

Norman, this is not a teaching or suggestion of the sulfur content of an additive package. However, because the Examiner appears to be making that link based upon her comments, Applicant notes that this amount is different than the claimed amount and in no way teaches or suggests an oil soluble lubricant additive package having a sulfur content of less than about 0.3 wt.%, as recited in the independent claims.

Moreover, the Examiner asserted that "the amount of sulfur present in the compositions disclosed by Walters **may be** within the claimed limit of less than 0.3 wt.%" See Office Action dated February 15, 2006, p. 6 (emphasis added). Walters provides no such disclosure, and is, in fact silent as to the composition of sulfur in either the additive combination or the resulting lubricating oil. *In re Rijckaert*, 9 F.3d 1531, 1533 (Fed. Cir. 1993) (holding that "the statement that the relationship is 'probably satisfied' by the prior art, is speculative and therefore does not establish a prima facie case of unpatentability.").

Further, as with Norman, the Examiner relied upon *Ex parte Wu* to support her argument that the sulfur-containing extreme pressure agent, component (a), could be omitted from Walters. See Office Action dated February 15, 2006 at 6. Component (a) is disclosed as an element of Walters' composition. To omit component (a) from Walters would destroy the invention for its intended purpose, and thus it would not have been obvious to do so. See MPEP 2143.01 V; *Ex parte Kaiser*, 189 U.S.P.Q. 816 (Bd. Pat. App. & Inter. 1974) (omission of feature claimed in reference is not obvious if such omission clearly contravenes the objective taught by the reference); *In re Gordon*, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

The antiwear agent of component (a) is recited in each of Walters' independent claims, and the reference never teaches or suggests that this component can be omitted. Thus, it would be improper to modify Norman to omit component (a), absent any suggestion or motivation provided in the reference to do so. *ACS Hospital Systems, Inc. v. Monefiori Hospital*, 732 F.2d 1572, 221 U.S.P.Q. 929,933 (Fed. Cir. 1984) ("If modifications to a prior art reference are required to arrive at a prima facie case, the prior art must supply the motivation or incentive to make the modifications."); *In re Mills*, 916 F.2d 680, 682, 16 U.S.P.Q.2d 1430,1432 (Fed. Cir. 1990).

For at least these reasons, Walters does not teach or suggest the claimed sulfur content and does not render obvious the claimed invention.

2. Walters does not teach or suggest the claimed phosphorus content

The Examiner stated that "component (b) meets the limitation of the at least one alkylamine salt of a dialkylmonothiophosphate component of the claims." See Office Action dated July 27, 2005, at 3 (citations to Walters omitted). However, the Examiner has failed to point to the teaching or suggestion in Walters of an oil soluble lubricant additive packing having a phosphorus content of less than about 0.11 wt%, as presently recited in independent claims 25, 35, and 45.

Presently, independent claims 25 and 35 each recite an additive package which yields "a sulfur content less than about 0.3 wt% and a phosphorus content of less than about 0.11 wt%." Walters provides no teaching or suggestion of either of these features, much less both of them together. Similarly, Walters does not teach or suggest any combination having two of the three claimed component amounts of sulfur,

phosphorus and ash, as recited in independent claim 45. Thus, each of independent claims 25, 35 and 45 patentably distinguish over Walters.

For at least the foregoing reasons, Walters does not render obvious the claimed invention. Reconsideration and withdrawal of the rejection are respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to deposit account 50-2961

Respectfully submitted,

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